# The effects of early years' childcare on child emotional and behavioural difficulties in lone and co-parent family situations

Jnl Soc. Pol. (2013), 42, 2, 235–258 © Cambridge University Press 2013
doi:10.1017/S0047279412000967

# The Effects of Early Years' Childcare on Child Emotional and Behavioural Difficulties in Lone and Co-Parent Family Situations

**HANNAH ZAGEL*, GITIT KADAR-SATAT**, MYRTHE JACOBS*** and ANTHONY GLENDINNING******

*School of Social and Political Science, University of Edinburgh
email: hzagel@ed.ac.uk
**Moray House School of Education, University of Edinburgh
email: g.kadar-satat@sms.ed.ac.uk
***School of Psychological Sciences and Health, University of Strathclyde
email: myrthe.jacobs@strath.ac.uk
****[corresponding author] Department of Sociology, University of Aberdeen
email: tony@abdn.ac.uk

## Abstract

With targeted childcare initiatives and welfare-to-work programmes policy-makers have sought to address employment activation of lone mothers and negative outcomes for children in lone parent households. The present study examines non-parental childcare use and maternal employment among children living in lone and co-parent family situations at ages three and four and emotional and behavioural difficulties at ages four and five. The results demonstrate that negative outcomes associated with lone motherhood are explained largely by mother's age, education, material circumstances and area deprivation; and that maternal employment does not relieve lone mothers' disadvantages in a way that alleviates the risks of difficulties to their children. However, in any family constellation, mainly group-based formal pre-school childcare does have a positive impact on child difficulties compared to drawing on informal childcare arrangements as main provider. In addition, and specifically for the difficulties of children in lone mother family situations, any non-parental childcare – formal or informal — for at least twenty-five hours per week is beneficial. Study findings support policy agendas which tackle families' material hardship beyond promoting mothers' employment, and through investment in formal childcare provision, and also through arrangements allowing lone mothers to divide their weekly load of childcare with another main provider.

## Introduction

The study investigates differences between the emotional and behavioural difficulties of children living in lone and co-parent situations and whether or not use of non-parental childcare, along with maternal employment, has positive or negative effects in the case of lone mothers and their pre-school children. The purpose is to contribute to debates on the consequences of lone parenthood for mothers and children, which have been on the policy agendas

of many Western countries (Giddings *et al.*, 2004; Kilkey and Bradshaw, 1999; Millar and Rowlingson, 2001). Key themes of these debates are the impoverished circumstances, often associated with lone parent families, and their negative impacts on children's development. Policy responses have emphasised the eradication of child poverty along with the promotion of mothers' labour market participation through welfare-to-work measures (Lewis and Hobson, 1997), increasing the coverage of early years' childcare provision (Plantenga *et al.*, 2008) and the use of targeted childcare interventions (Lewis, 2011).

Public discourse about the situation of lone motherhood is frequently negative and seen as the source of many social problems (Lewis, 1999) while over-simplifying family dynamics and diversity (Ermisch and Francesconi, 2000; Richards and Schmiege, 1993). Among concerns about lone motherhood are adverse long-term outcomes for children associated with lower educational achievement (Dronkers, 1994; Ely *et al.*, 1999; Ermisch and Francesconi, 2001) and greater psychological and behavioural difficulties (Amato and Keith, 1991; Chase-Lansdale *et al.*, 1995; Kiernan, 1992). Lone mothers themselves may be more negative in their reports of their children's adjustment and behaviour compared to mothers in co-parent family situations (Dunn *et al.*, 1998), but such differences in the emotional and behavioural well-being of children from lone parent families compared to co-parent families can be attributed to material and social factors, including benefits receipt, housing tenure and maternal education (McMunn *et al.*, 2001). Indeed, other research suggests that it is not the family constellation *per se*, as a lone parent or co-parent family, but the material and social resources available to children in those situations which mediate negative outcomes (Ely *et al.*, 2000; Entwisle and Alexander, 1995; Joshi *et al.*, 1999; Rowlingson and McKay, 2005; Thomson *et al.*, 1994). There are also other important factors including maternal depression, anxiety and everyday stressors which are associated with children's emotional and behaviour problems (Cerezo and Pons, 1996; Griest *et al.*, 1980; Gross *et al.*, 1999) and which may be felt more strongly by lone mothers.

Welfare policies framed around lone mothers' obligations to work (Finn and Gloster, 2010) propose to reduce the risk of hardship for young children, with concomitant benefits for child development. However, claims about the benefits of maternal employment cannot be separated out from the types of childcare available to and used by working mothers of young children. By looking at the effects of mothers' employment status when their children were under three years of age and cognitive development measured between ages four and seven years, Gregg *et al.* (2005) found, overall, mothers' full-time employment before the age of eighteen months had adverse consequences for their children's development compared to other mothers who were working part-time only or had not returned to paid work, but that negative effects were small and dependent on type and quality of non-maternal childcare used by working mothers. The

reliance of mothers who returned early to full-time work on informal childcare from partners, relatives and friends had detrimental effects, whereas use of formal centre-based childcare was relatively beneficial to child development. Differences between the children of lone and co-parent mothers who worked full-time were not clear-cut, although there were indications that the children of lone mothers who worked did not feel the adverse effects of full-time maternal employment in the way that children from co-parent families did. Gregg *et al.* (2005: 69) read 'these results [as] tentatively suggest[ing] mother's earnings may be particularly beneficial in single parent families if other income sources are deficient or the quality of child rearing provided by lone mothers may be low relative to the alternative'. This means that non-maternal childcare benefited the children of lone mothers who worked full-time because it also enhanced the quality of care provided to their children. The study had found that lone mothers who worked full-time were less likely to use informal childcare arrangements for under-threes compared to co-parent mothers. Those findings of Gregg *et al.* point to developmental benefits of lone mothers' employment but contingent on childcare arrangements. Our own study analyses data for lone mothers and their pre-school children which are taken from Growing Up in Scotland (GUS) (CRFR, 2011).

### Lone motherhood in the UK context

We elaborate on debates about the benefits of early years' childcare and lone mothers' employment in the UK context because employment rates of lone mothers are particularly low in the UK compared to most other Western countries (OECD, 2011). Lone mothers in the UK are often represented as putting strains on the public purse because they are overrepresented among families receiving state benefits, particularly among those receiving means-tested income support benefits (Department for Work and Pensions, 2009), and 'activation' of women in lone motherhood remains centre-stage in government welfare-to-work policy reforms (Haux, 2011). As in other parts of the welfare system, the emphasis has been on mothers' social responsibility to work (Wright, 2012; Duncan and Edwards, 1999). Nonetheless, the majority of lone parent families continue to experience economic hardship and the UK government's formal commitments to address the issue of child poverty has kept lone parent families high on the political agenda (British Government, 2010). Only recently, the Westminster government has announced plans to double formal childcare places to reach the most disadvantaged two-year-olds in England with the express aim of making it easier for parents of young children to return to work (Harrison, 2011). Access to childcare is seen as promoting employment activation to the benefit of families.

In the strong narrative that continues to exist in the UK, among the public, policy and media, lone mothers' impoverished circumstances are equated with

the family type itself, resulting in a discourse of blaming lone mothers for social problems and for failing to assume social responsibility (Conway, 2010). Under pressure of budget strains and social uproar, the Westminster government just recently chose to draw on those stereotypes (Sky News, 2011). The tabloid press fuelled claims of lone mothers being the reason for a decay of values and for the presence of feral youth out of control on the nation's streets (Phillips, 2011). Liberal media rejected the Prime Minister's suggestions that lone mothers were at the root of the country's August 2011 inner-city riots (Gold, 2011) and sought to explain the riots as occurring because of a lack of social inclusion framed by the policy agendas of the previous government (Handler, 2004).

### Early years' childcare in the UK and Scottish context

The attention of UK governments to the development of childcare provision and education for pre-school children has historically been relatively modest in comparative terms (Winter, 2009), the matter considered primarily a parental responsibility and individual childcare arrangements left to families (Vincent *et al.*, 2008). However, a newly elected Westminster government initiated the reshaping of the British pre-school childcare domain in 1997, and the newly devolved Scottish Parliament took further steps in that direction in 1999. Previously, a stronger emphasis had been placed on developing statutory childcare provision for under-fives in the Scottish context (Wincott, 2006).

Both Westminster and Scottish reforms aimed at providing more comprehensive and affordable provision of childcare arrangements. As with Sure Start in England (2005), the Sure Start Scotland programme was launched to provide childcare environments encouraging 'vulnerable' children's social and emotional development, and allowing them to build learning skills (Cunningham-Burley *et al.*, 2005; Paton, 2007). These policy initiatives complemented other early years' measures (Scottish Executive, 2004). Correspondingly, the use of childcare services and pre-school centres by Scottish parents of under-fives increased during the 1990s by around 10 per cent for childcare services (Scottish Executive, 2003; Scottish Government, 2010a) and 20 per cent for pre-school centres (Scottish Executive, 2000; Scottish Government, 2010a). Non-parental childcare exists in both formal and informal forms. Grandparents represent a significant provider; their input is in decline but grandparents continue to provide the majority of informal early years care (Scottish Government, 2007). Other provision comprises a mixture of arrangements in group settings or individually, including nurseries, crèches, centres, playgroups, childminders and other individual carers, such as nannies and babysitters who are agency registered (Scottish Government, 2010a; Scottish Care Inspectorate, 2011).

Targeted group-based education interventions run in Sure Start centres in disadvantaged areas with the families of pre-school children have been shown

to be effective short-term (Hutchings *et al.*, 2007). However, it remains an open question in what ways non-parental childcare arrangements in general are beneficial or detrimental to young children's emotional and behavioural development. UK studies have established that there are connections between pre-school childcare attendance patterns and later emotional, behavioural, social and cognitive outcomes, but the nature of the relationship between early experience with various childcare arrangements and different developmental outcomes is neither simple nor consistent. For example, pre-school children at the ages of three and four years who received formal non-parental care in group settings, depending on the duration in months rather than hours per week, have been shown to exhibit better behavioural outcomes in the early stages of schooling (Sylva *et al.*, 2004), although these were not evident for children of two years of age and under (Sammons *et al.*, 2004). This suggests that the benefits of formal non-parental care were age dependent. Yet other studies have found no evidence that the type of childcare arrangement at ages three and four years is associated with reported child difficulties at ages four and five years, although the amount of time that three- and four-year-olds spent in non-parental care was associated with emotional and behavioural difficulties one year later where children who experienced a greater amount of non-paternal care each week had more reported difficulties than other children (Bradshaw and Wasoff, 2009). Hansen and Hawkes (2009) considered the subsequent developmental effects of non-maternal childcare, but for a younger cohort of children at age nine months whose mothers had returned to work. They also found that there was no indication that children who received formal group-based care as their main childcare arrangement had differing levels of emotional or behavioural difficulties at three years of age compared to children who experienced other forms of childcare, except in the case of informal care provided by grandparents, which had negative effects on children's behaviour at three years of age. However, grandparents' care had other developmental benefits.

## Hypotheses[1]

Based on the research and policy concerns set out above, our analysis tests the following hypotheses:

*Family type:* Differences in the reported difficulties of children living in lone mother and co-parent families are mediated by families' differing material and social circumstances.

*Childcare provision:* The type and amount of non-parental childcare moderates differences in reported difficulties of children living in lone-mother and co-parent family situations.

*Maternal employment:* Mothers' employment moderates differences in reported difficulties of children living in lone-mother and co-parent family situations, but contingent on non-parental childcare.

## Methods and data

### Data and study design

Data are from the second (GUS2, three- and four-year-olds) and third (GUS3, four- and five-year-olds) sweeps of Growing Up in Scotland (CRFR, 2011). Data collection was by means of computer-assisted interviews in participants' own homes, if at all possible with the child's mother or if not available the main carer. Interviews were quantitative and consisted almost entirely of closed questions including a brief, self-completion section. Across the first three sweeps of GUS, more than 98 per cent of interviews were with the child's mother. Proxy interviews were used to gather information on resident partners. Our analysis is restricted to mothers only.

The original sampling frame was the child-level child benefit records held by the Inland Revenue with a multi-stage sample design. Children were selected from 130 sample points, where points consisted of aggregations of geographical data zones. Our analysis focuses on the GUS Child Cohort, in which children were aged around thirty-four months at the first sweep in 2005–06, forty-six months at the second sweep in 2006–07, and fifty-eight months at the third sweep in 2007–08. More than 90 per cent of the Child Cohort responded to all three sweeps. As to the representativeness of the GUS samples, relevant stratum, cluster and longitudinal weights are applied and analyses are undertaken using the 'complex samples' module in *IBM SPSS Statistics 19*.

Our study design takes a single snap shot of mothers' and their children's situations from the second sweep (GUS2, three- and four-year-olds), with a focus on details of family type and socio-economic circumstances, along with assessments of mothers' emotional well-being and, concurrently, forms and amounts of childcare used by sample families. Our outcome variable is mothers' reports of their children's emotional and behavioural difficulties at the third sweep (GUS3, four- and five-year-olds). We chose to focus on children at three and four years of age because Sylva *et al.* (2004) found in their extensive evaluations of early years' interventions in the UK that formal group-based childcare among three- and four-year-olds was associated with more positive outcomes in the early stages of primary school. We do not implement a full longitudinal design, for example which would track and combine forms and amounts of childcare used by families at both the second and third sweeps of GUS, because some 35 per cent of our cohort had started school by the third sweep of GUS, conflating pre-school and primary-school children's experiences of formal group-based settings.[2]

### Measures

Child difficulties at GUS3 (four and five years) are based on mothers' reports of their children's behaviour in the last six months, collected in self-completion format by means of the widely used Strength and Difficulties Questionnaire (SDQ) with a 'high-risk' sample of children of lone mothers (Goodman *et al.*,

2010). Goodman and Goodman (2011: 106) have shown using mean SDQ total difficulties scores that mothers' reports generally provide an accurate and unbiased method of comparing the mental health of different subgroups of British children, including subgroups which they characterised by family type, mothers' age, education and stress symptoms and households' income, occupational status and area deprivation – key factors in the present study. The SDQ combines responses to five items in each of four sub-domains of emotional difficulties, conduct problems, peer problems and inattention in order to construct a scale where values could hypothetically range from 0 to 40 (Goodman and Goodman, 2011: 101). The reliability of this scale using GUS data was acceptable ($\alpha = 0.78$, $k = 20$, $n = 2{,}045$).

We construct an ordinal version of the SDQ total difficulties scale because the distribution of scores among our GUS sample is skewed and peaked (actual range = 0 to 27; mean = 8.09, median = 7, mode = 5, skewness = 0.85 and kurtosis = 0.72), and particularly because its use violated assumptions about the distribution of residuals in our initial linear regression analyses.[3] Therefore, we have divided up the original scale into tertiles on the basis of the GUS sample's responses: (1) scores of 0–5 are considered as representing relatively 'low' child difficulties (33.5 per cent); (2) scores of 6–9 are considered 'moderate' (33.7 per cent); and (3) scores of 10–40 are considered 'high' (32.8 per cent).

Households are separated into co-parent contexts and lone mother contexts where there was no spouse/partner resident at GUS2 (Table 1(a)). About one-quarter of our weighted sample were lone mothers ($N = 469$, 23 per cent). Mothers were asked in detail about the form and amount of non-parental childcare they used at GUS2, meaning when the child 'is looked after by anyone other than yourself' (or, where applicable, 'other than by your partner'). Only twenty-six mothers (weighted, 1 per cent) said they did not use any formal or informal childcare. The majority of remaining mothers, 54 per cent, said they used formal childcare only; 45 per cent said they used a mix of both formal and informal provision. One per cent of mothers used informal childcare arrangements alone. Our analysis focuses on details of the main non-parental childcare provider.

Main childcare use has been grouped into two informal and four formal categories (Table 1(b)): 'grandparents' (21 per cent) and 'other informal arrangements' (5 per cent); 'playgroups' (20 per cent), 'child minders' (25 per cent), 'nurseries, crèches and centres' (27 per cent) and 'other formal arrangements such as nannies' (2 per cent). As to amounts of childcare (Table 1(b)), measured in terms of 'roughly how many hours in an average week' the child is with the main provider, the mean value was 16.66 hours (excluding six mothers with more than 100 hours of childcare). Forty-three per cent of mothers reported that their child was with the main provider for fifteen plus hours per week; 30 per cent reported 20+ hours per week, and 17.5 per cent reported twenty-five plus hours per week at GUS2.

TABLE 1. Mother's reports of child's difficulties at age 4–5 years by family type and by main type of childcare provision at age 3–4 years[1] ($N = 2{,}028$)

| | Reported difficulties | | | |
|---|---|---|---|---|
| Row percentages = 100% | Low 0–5 | Mid 6–9 | High 10+ | *N* |
| (a) Family type at 3–4 yrs | | | | |
| Lone mother** | | | | |
| One parent households | 21 | 34 | 45 | *467* |
| Other co-parent households | 37 | 34 | 29 | *1,561* |
| (b) Childcare at 3–4 yrs | | | | |
| Main childcare provider* | | | | |
| Grandparents . . . | 30 | 36 | 34 | *422* |
| Other informal care, relatives . . . | 31 | 37 | 32 | *94* |
| Playgroups . . . | 28 | 35 | 37 | *390* |
| Childminders . . . | 35 | 32 | 33 | *507* |
| Nurseries, crèche, centres . . . | 38 | 33 | 29 | *571* |
| Other formal care . . . | 41 | 37 | 22 | *44* |
| No. of hrs/wk with main provider** | | | | |
| < 10 hrs | 33 | 40 | 27 | *292* |
| 10 to 11 hrs | 35 | 32 | 33 | *864* |
| 15 to 19 hrs | 36 | 34 | 30 | *262* |
| 20 to 24 hrs | 37 | 33 | 29 | *249* |
| 25+ hrs[a] | 26 | 33 | 40 | *352* |

*Notes:* Pearson chi-square test of association between family type and child difficulties and between main childcare and difficulties, *$p < 0.05$, **$p < 0.01$.

[a]Inspection of adjusted standardised residual *Z*-scores in Table 1(b) indicate: use of 'nurseries, crèche and centres' stands out as associated with less difficulties than use other types of main provision, $p < 0.01$; whereas '25+ plus hours per week' with a main provider stands out as associated with more difficulties than spending fewer hours with a main provider, $p < 0.01$.

[1] Excludes twenty-three mothers who said they did not use childcare.

In terms of childcare by family type, differences in the main provider used by lone mothers compared to co-parent mothers relate to only two of the six forms of provision: childminders (21 per cent of lone mothers, 26 per cent of co-parent mothers), and informal care provided by a relative other than a grandparent, an ex-partner, a friend or neighbour, or the child's older sibling (10.5 per cent of lone mothers, 3.5 per cent of co-parent mothers). Among lone mothers who relied on such informal childcare, the majority was in fact provided by an older sibling. Concerning differences in the amount of childcare by family type, 25.5 per cent of lone mothers compared to 15 per cent of co-parent mothers had their child with their main provider for twenty-five plus hours per week.

Socio-demographic factors at GUS2 relate to child's sex, number of children in the household and mother's age as under thirty, thirty to thirty-nine or forty

plus (Table 2(c)). In 27 per cent of households, there was only one child. No mother was under twenty years at GUS2. Around one-fifth of study participants were 'younger' mothers (under thirty years) and another fifth were 'older' mothers (over forty years). Lone mothers were much more likely than co-parent mothers to be younger (55 per cent compared to 18.5 per cent) and they were less likely to be older (10 per cent compared to 20 per cent). Education level was based on highest qualification attained (Table 2(c)). Nine per cent of mothers in the sample had no qualifications and a further 19 per cent held compulsory school-level qualifications only; 44 per cent held advanced school-level qualifications and equivalents, and 28 per cent held degree-level qualifications. Lone mothers were more likely than co-parent mothers to have no qualifications (19 per cent compared to 6 per cent) and they were less likely to be graduates (10 per cent compared to 34 per cent).

Socio-economic factors included details of employment (Table 2(d)). Sixteen per cent of mothers were working full-time (35 or more hours per week), 48 per cent were working part-time (less than 35 hours per week) and 36 per cent were not in paid work. In terms of differences in employment status by family type, only 42 per cent of lone mothers compared to 69 per cent of co-parent mothers were in work, either part-time or full-time. The household's occupational social class was derived from the National Statistics Socio-Economic Classification (NS-SEC) using details of mothers', and where applicable resident partners', present and last jobs (Rose *et al.*, 2005). More than one-fifth of households were classified as in lower status routine or semi-routine employment or as having never worked (Table 2(d)). However, the majority of households were classified as 'middle-class' in terms of mothers' and resident partners' occupations. Lone mothers were more likely than co-parent mothers to live in lower status households (59 per cent compared to 11 per cent) and less likely to live in middle-class households (16 per cent compared to 60 per cent). Annual income was expressed in banded equivalents (Table 2(d)). Thirty per cent of households were on relatively low incomes (Scottish Government, 2010b). In terms of differences in household income by family type, 51 per cent of lone mothers compared to only 7 per cent of co-parent mothers were in the lowest income quintile (less than £11,250 per annum).

Table 2(e) characterises households in terms of relative deprivation and settlement size of the local area. Households are allocated to quintiles using *The Scottish Index of Multiple Deprivation 2006*, along the dimensions of health, employment, education, services, housing and crime, from the least to most deprived data zones (Scottish Government, 2006), and also into three categories on the basis of the Urban–Rural Classification, from rural areas and small towns through to large urban areas (Scottish Government, 2008). Lone mothers were more likely to live in the most deprived neighbourhoods (44.5 per cent compared to 15.5 per cent of co-parent mothers) and more likely to live in cities (41.5 per cent compared to 32.5 per cent of co-parent mothers).

TABLE 2. Mother's reports of child's difficulties at ages four and five years by socio-demographic, socio-economic and community factors at ages three and four years ($N = 2{,}028$)

| | Reported difficulties | | | |
|---|---|---|---|---|
| Row percentages = 100% | Low 0–5 | Mid 6–9 | High 10+ | *N* |
| (c) Socio-demographic circumstances at 3–4 yrs | | | | |
| No. of children in household[a] | | | | |
| Only child in household | 26 | 35 | 39 | *552* |
| Two children | 36 | 33 | 31 | *1,052* |
| More than two children | 36 | 33 | 31 | *444* |
| Sex of child** | | | | |
| Boy | 30 | 33 | 37 | *1,035* |
| Girl | 37 | 34 | 29 | *993* |
| Mother's age-group** | | | | |
| 20–29 yrs | 25 | 31 | 44 | *430* |
| 30–39 yrs | 34 | 36 | 30 | *1,175* |
| 40+ yrs | 43 | 33 | 24 | *423* |
| Mother's highest qualification** | | | | |
| No qualifications | 19 | 22 | 59 | *151* |
| School Standard Grade, equiv. | 26 | 36 | 38 | *324* |
| School Higher Grade, FE, equiv. | 31 | 34 | 35 | *905* |
| Degree, HE, equiv. | 47 | 36 | 17 | *648* |
| (d) Socio-economic circumstances at 3–4 yrs | | | | |
| Mother's employment status[a] | | | | |
| Not employed | 29 | 29 | 41 | *672* |
| Part-time (< 35 hrs) | 36 | 36 | 28 | *1,016* |
| Full-time (35+ hrs) | 35 | 36 | 29 | *340* |
| Household occupation class NS-SEC** | | | | |
| Semi-routine, routine, not classified . . . | 21 | 31 | 48 | *373* |
| Intermediate, technical . . . | 28 | 36 | 36 | *545* |
| Managerial, professional . . . | 42 | 34 | 24 | *1,110* |
| Household income equivalents** | | | | |
| Less than £17,916 (low) | 23 | 31 | 46 | *605* |
| £17,916–£37,499 (medium) | 32 | 36 | 32 | *646* |
| More than £37,500 (high) | 43 | 34 | 23 | *770* |
| (e) Community circumstances at 3–4 yrs | | | | |
| SIMD 2006 Deprivation (Quintiles)** | | | | |
| < 7.75 (least deprived) | 44 | 35 | 21 | *463* |
| 7.75–13.55 | 36 | 37 | 27 | *463* |
| 13.56–21.04 | 37 | 35 | 28 | *423* |
| 21.05–33.69 | 27 | 32 | 41 | *307* |
| > 33.69 (most deprived) | 23 | 29 | 48 | *372* |
| Rural–urban classification** | | | | |
| Rural areas and small towns (< 10,000) | 37 | 36 | 27 | *716* |
| Urban areas (10,000–125,000) | 32 | 34 | 34 | *666* |
| Large urban areas (125,000+) | 32 | 31 | 37 | *646* |

*Notes:* Chi-square test of ordinal-by-ordinal association, **$p < 0.01$.

[a]Inspection of adjusted standardised residual *Z*-scores for these associations indicate: mothers who are not employed report more difficulties than employed mothers, whether in full- or part-time work; and having one child is associated with more difficulties than having more than one child, $p < 0.01$.

TABLE 3. Mother's reports of child's difficulties at ages four and five years by mother's reports of own symptoms of stress and depression when the child was three and four years of age ($N = 2{,}028$)

| | Reported difficulties | | | |
|---|---|---|---|---|
| Row percentages = 100% | Low 0–5 | Mid 6–9 | High 10+ | *N* |
| (f) Mother's emotional symptoms at 3–4 yrs DASS depression and stress score** | | | | |
| 'Normal range' (0–5)[a] | 38 | 34 | 28 | *1,651* |
| 'Mild' (6) | 21 | 40 | 39 | *139* |
| 'Moderate' (7–9) | 11 | 36 | 53 | *137* |
| 'Severe' (10–18) | 7 | 26 | 67 | *102* |

*Notes:* Chi-square test of ordinal-by-ordinal association, **$p < 0.01$; $\rho = 0.24$.
[a] Categories defined in terms of percentiles (Crawford and Henry, 2003: 118).

The interview at GUS2 included three self-completion questions about depression and a further three about stress taken from a larger inventory of depression, anxiety and stress-related symptoms, called DASS, developed by Lovibond and Lovibond (1985). The reliability and utility of DASS for use with adult population samples in the UK was demonstrated by Crawford and Henry (2003), who also provided distributions for cut-points defined as percentiles. Table 3 separates out mothers' reports of depression and stress-related symptoms as: 'normal range' (scores of 0–5, 81 per cent of the sample); 'mild' (a score of 6, 7 per cent); 'moderate' (7–9, 7 per cent), and; 'severe' (10–18, 5 per cent). Lone mothers were more likely to report severe depression and stress-related symptoms (9 per cent compared to 4 per cent of co-parent mothers).

### Plan of analysis

Tables 1, 2 and 3 provide details of preliminary analyses of bivariate relationships between explanatory factors at GUS2 and mothers' reports of child difficulties at GUS3. Table 4 then provides the details of a series of multivariate ordinal regression analyses to assess the relative effects of family type on reported child difficulties, controlling for childcare arrangements, socio-demographic factors, employment status, socio-economic and community circumstances and mother's symptoms of depression and stress, in a step by step modelling process.[4] Table 5 provides estimates of increase or decrease in reports of higher difficulties scores relative to lower difficulties scores in condition groups compared to control groups of mothers, such as lone mothers compared to co-parent mothers, expressed in percentage terms, rather than as cumulative odds ratios, to render final results in a more accessible format.

TABLE 4. Ordinal regression of mother's reports of child's difficulties at ages four and five years against family type and main type of childcare at ages three and four years, controlling for socio-demographic, socio-economic and community circumstances at ages three and four years (with adjustments for complex sample design, $N \sim 2{,}008$)

| | Regression models | | | | |
|---|---|---|---|---|---|
| Cumulative odds ratios[1] | (I) | (II) | (III) | (IV) | (V)[4,5] |
| (a) Family type[2] | | | | | |
| Lone mothers vs others | **2.04 | *1.32 | 1.01 | 0.99 | 1.21[4] |
| (b) Main childcare provision[3] | | | | | |
| Nursery vs others | **0.74 | *0.80 | *0.81 | *0.82 | *0.82 |
| Playgroups vs others[a] | — | — | — | — | — |
| Childminders vs others[a] | — | — | — | — | — |
| 25+ hrs/wk vs <25 hrs/wk | **1.43 | **1.47 | **1.55 | **1.52 | **1.91 |
| (c) Socio-demographic circumstances | | | | | |
| No. children in household | | | | | |
| Only child vs two or more | | *1.35 | *1.36 | *1.37 | *1.37 |
| Gender of child | | | | | |
| Boy vs girl | | **1.39 | **1.41 | **1.41 | **1.41 |
| Mother's age-group | | | | | |
| 30–39 years vs 40+ years | | **1.47 | **1.40 | **1.46 | **1.47 |
| 20–29 years vs 40+ years | | **1.82 | **1.52 | **1.65 | **1.65 |
| Mother's educational qualifications | | | | | |
| School higher vs degree | | **1.81 | **1.61 | **1.61 | **1.60 |
| School standard vs degree | | **2.14 | **1.73 | **1.64 | **1.65 |
| No qualifications vs degree | | **4.72 | **3.50 | **3.49 | **3.50 |
| (d) Socio-economic circumstances | | | | | |
| Household income equivalent (tertiles) | | | | | |
| Mid (£17,916–£37,499) vs Higher (£37,500+)[a] | | | – | – | – |
| Lower (<£17,916) vs Higher (£37,500+) | | | **1.51 | *1.36 | *1.35 |
| Household occupational class (NS-SEC) | | | | | |
| Intermediate vs professional/managerial[a] | | | – | – | – |
| Semi/routine vs professional/managerial[a] | | | – | – | – |
| Mother's employment status | | | | | |
| Not employed vs employed[a] | | | – | – | – |
| Cumulative odds ratios[1] | Regression models | | | | |
| | (I) | (II) | (III) | (IV) | (V) |
| (e) Community circumstances | | | | | |
| SIMD 2006 area deprivation (quintiles) | | | | | |
| Less deprived (7.75–13.55) vs least (<7.75)[a] | | | – | – | – |
| Mid-level (13.56–21.04) vs least (<7.75)[a] | | | – | – | – |
| More deprived (21.05–33.69) vs least (<7.75) | | | **1.46 | *1.34 | *1.32 |
| Most deprived (33.69+) vs least (<7.75) | | | **1.61 | **1.51 | **1.51 |
| Rural–urban classification (population) | | | | | |
| Urban (10,000–125,000) vs small (<10,000)[a] | | | – | – | – |
| Large urban (125,000+) vs small (<10,000)[a] | | | – | – | – |
| (f) Mother's depression and stress symptoms | | | | | |
| Mild vs normal range | | | | **1.71 | **1.70 |
| Moderate vs normal range | | | | **2.79 | **2.84 |
| Severe vs normal range | | | | **4.47 | **4.39 |

TABLE 4. Continued

| | Regression models | | | | |
|---|---|---|---|---|---|
| Cumulative odds ratios[1] | (I) | (II) | (III) | (IV) | (V) [4, 5] |
| (g) Interactions among family type, main childcare and employment | | | | | |
| Lone mother with 25+ hrs/wk of main care vs other mothers | | | | | **0.47 |
| Lone mothers with nursery as main care vs other mothers[a] | | | | | – |
| Lone mothers who are not employed vs other mothers[a] | | | | | – |
| R-square for models | 0.042 | 0.118 | 0.132 | 0.173 | 0.178 |

*Notes:* Cumulative odds ratio 1.00, **p < 0.01; *p < 0.05.

[a]Omitted from the regression model as non-significant effects, p ≥ 0.10.

[1]Odds of reporting higher scores (10+) relative to moderate scores (6–9) and the odds of reporting moderate scores (6–9) relative to lower scores (0–5).

[2] Effect of family type prior to modelling, odds ratio = 2.12**, R-square = 0.32

[3]The initial reference category for estimating the relative effects of type of main provider was informal childcare, 79 per cent of which was by grandparents.

[4] Collinearity statistics: maximum VIF is for household income equivalent = 1.95.

[5] Parallel lines test: Wald = 1.288, df1 = 20, df2 = 46, p = 0.235.

[6] Family type is included in each model to show its changing association with child difficulties and in the final model to estimate family type's differing effects on child difficulties contingent on hours per week of childcare used, Table 4(g).

## Findings

### *Bivariate analysis*

The results of our bivariate analyses in Tables 1, 2 and 3 confirm that each of the explanatory factors considered for inclusion in the multivariate analyses is associated with reported difficulties at GUS3. The preliminary bivariate analysis of family type points to lone mothers reporting more difficulties (Table 1(a)).[5] Mothers who used formal childcare other than childminders and playgroups as their main provider – of which more than 90 per cent was in the form of group-based nursery, crèche and family-centre provision – were less likely to report subsequent difficulties compared to mothers who used other childcare including use of childminders, playgroups, grandparents, relatives and other informal care (Table 1(b)). However, mothers who used more than twenty-five hours of childcare per week of any form of main provision were more likely to report difficulties at GUS3 compared to mothers using fewer hours with a main provider at GUS2 (Table 2(b)).

For the most part, household and community circumstances seem linear in their effects on mothers' reports of child difficulties; for example, as deprivation increases,the likelihood of reported difficulties also increases. As the mother's age and education increase, perceived difficulties decrease, and as relative advantage in terms of the household's occupational status and income increase, perceived

TABLE 5. Estimates of percentage change in the risk of mothers reporting higher compared to lower levels of child difficulties at ages four and five years[1] as relates to family type, main type of childcare, socio-demographic, socio-economic and community circumstances at ages three and four years ($N \sim 2008$)

| | (Odds ratio)[2] | Condition $p$ = High $(1-p)$ = Low | Prob[3] $p$ | Comparison $q$ = High $(1-q)$ = Low | Prob[3] $q$ | Change in risk[4] |
|---|---|---|---|---|---|---|
| Prior to modelling | | | | | | |
| Family type | (4.49) | Lone mother | 0.72 | Other family | 0.44 | +64% |
| Final regression model[5] | | | | | | |
| Type of main care | (0.67) | Nursery | 0.42 | Other care | 0.52 | –20% |
| No. of children | (1.88) | Only child | 0.60 | Two or more | 0.46 | +30% |
| Sex of child | (1.99) | Boy | 0.58 | Girl | 0.44 | +33% |
| Age-group | (2.72) | <30 years | 0.51 | 40+ years | 0.35 | +46% |
| Education | (12.25) | No qual. | 0.50 | Graduate | 0.27 | +84% |
| Income equiv. | (1.82) | <£17,916 pa | 0.44 | >£37,500 pa | 0.34 | +29% |
| Area deprivation | (2.28) | Most dep'd | 0.45 | Least dep'd | 0.32 | +39% |
| Depression & stress | (19.27) | Severe | 0.82 | Normal range | 0.43 | +90% |
| Family type × hrs/wk of main care | | | | | | |
| | (1.46) | Lone & <25 | 0.49 | Other & <25 | 0.41 | +19% |
| | (1.18) | Lone & ≥25 | 0.44 | Other & <25 | 0.41 | +8% |
| | (3.65) | Other & ≥25 | 0.64 | Other & <25 | 0.41 | +57% |

Notes:

[1]Higher difficulties scores (High 10+) relative to lower scores (Low 0–5).

[2]Odds ratio of High:Low in the condition group relative to the comparison group when the odds ratio for the comparison group has been set to 1.00 or 50:50.

[3]The corresponding relative probability is $p' =$ odds ratio $\div$ (1 + odds ratio) for the condition group when $q' = 0.5$ for the comparison group; and because $p \div q = p' \div q'$, the absolute probability for the condition group is $p = q \times p' \times 2$

[4]Percentage change in the risk of High scores in the condition group relative to the risk of High scores in the comparison group $= (p - q) \div q \times 100\%$.

[5]Calculations are based on the final ordinal regression model (V) in Table 4.

difficulties also decrease. The exceptions to linearity are number of children in the household, employment status and rural–urban location: mothers with only one child at home are more likely to report difficulties compared to mothers with two or more children (Table 2(c)), as are mothers who are not in employment compared to mothers who are employed either part-time or full-time (Table 2(d)); while mothers who live in rural areas and small towns are less likely to report difficulties compared to mothers in larger towns and cities (Table 2(e)).

Finally, Table 3 shows that more than one half of mothers with moderate symptoms and two-thirds of mothers with severe symptoms of depression and stress at GUS2 report higher child difficulties scores at GUS3. The corresponding

estimate of higher child difficulties among mothers in the normal range of depression and stress scores is only 28 per cent.

*Multivariate analysis*

Prior to the inclusion of any other explanatory factors into the ordinal regression models in Table 4, the estimated odds ratio of lone mothers compared to co-parent mothers reporting higher relative to moderate child difficulties scores (or moderate relative to lower difficulties scores) is 2.12. Model (I) shows that the odds ratio of lone motherhood changes to 2.04 when childcare factors are included too, which is a small but statistically significant reduction. Subsequent tests for interaction effects in Model (V) show that the reduction in child difficulties between lone and co-parent mothers is due to amount rather than type of childcare.[6]

As to the direct effects of childcare on child difficulties for all mothers, Model (I) shows the specific use of childcare at nurseries, crèches and centres as the main provider as opposed to other forms of provision, either formal or informal, such as playgroups, childminders or grandparents, is associated with reduced odds of reported difficulties (odds ratios = 0.74:1.00). By way of contrast, greater use of any form of childcare, represented by twenty-five plus hours per week with the main provider, is associated with increased odds of mothers reporting child difficulties (odds ratios = 1.43:1.00).

Model (II) indicates that the same childcare effects remain when socio-demographic factors are included, such as the number of children at home, the child's sex and the mother's age and education level. The relative odds of lone mothers reporting difficulties is reduced considerably more by the inclusion of such factors from 2:01 to 1.32.[7] Nonetheless, lone mothers remain more likely to report difficulties compared to co-parent mothers, even after controlling for the relative advantages of co-parent mothers' older age and higher educational attainments. In other words, an explanation for the observed association between lone motherhood and greater likelihood of reported difficulties cannot be found in lone mothers being younger and less well educated alone.

In Model (III) the effect of lone motherhood is no longer statistically significant. Likewise, mother's employment status and the household's occupational status are statistically insignificant in Model (III). That suggests we must account for material circumstances, especially low income and neighbourhood deprivation, alongside younger age and lower educational attainments, rather than focus on lack of employment or lower occupational status as the explanation for lone mothers' reports of more child difficulties. In short, it is a combination of age and education, and low income and deprivation that counts. The inclusion of mothers' depression and stress-related symptoms in Model (IV) does not alter any of those conclusions. Mothers' mental health is

an important part of the explanation but it does not help to explain the difference between lone and co-parent mothers' reports of child difficulties.[8]

In all of this, while controlling for the mother's circumstances and emotional well-being, childcare effects remain the same and seem to operate separately. The specific use of nurseries, crèches and centres is associated with reports of less difficulties (odds ratios = 0.82:1.00) but greater use of any childcare at twenty-five plus hours per week is associated with reports of more difficulties (odds ratios = 1.52:1.00). Model (V) qualifies that conclusion in one regard, through inclusion of an interaction term between family type and weekly amounts of childcare, which is statistically significant (odds ratios = 0.47:1.00). That interaction suggests that lone mothers do not report increased difficulties due to greater use of childcare but that co-parent mothers do. Also important to note in Model (V) is the absence of other interaction effects between lone motherhood, childcare and employment. Employment status does not seem to affect lone mothers' reports of difficulties differently from mothers in co-parent contexts; and the benefits of nurseries, crèches and centres seem to be felt by both groups of mothers equally, as expressed in their more positive reports of their children's behaviour compared to use of other providers.

Table 5 summarises the joint effects of our explanatory factors in percentage terms, including the differing effects of the amount of childcare used in lone mother and co-parent contexts. In sum, the results in our final ordinal regression model indicate that the use of nurseries, crèches and centres reduces the likelihood[9] of mothers reporting higher child difficulties scores by 20 per cent compared to other forms of childcare with a main provider. With regard to negative effects:

- experiencing severe symptoms of depression and stress increases the likelihood of mothers reporting higher difficulties scores by 90 per cent compared to mothers with symptoms in the normal range;
- having no qualifications increases the likelihood of reporting higher difficulties scores by 84 per cent compared to mothers who are graduates, and being a younger mother increases the likelihood by 46 per cent compared to older mothers;
- parenting a boy increases the likelihood by 33 per cent, and having only one child in the household by 30 per cent;
- living in the most deprived areas increases the likelihood by 39 per cent and lower household income by 29 per cent.

Finally, lone motherhood does have an effect on reports of difficulties over and above our other explanatory factors but that effect is contingent on the amount of childcare which is used:

- being a lone mother using a main childcare provider for less than twenty-five hours per week increases the likelihood of reporting higher child difficulties

scores by 19 per cent compared to co-parent mothers who use a main provider for less than twenty-five hours per week;
- but being a lone mothers using a main childcare provider for twenty-five or more hours per week increases the likelihood of difficulties by 8 per cent only compared to co-parent mothers who use a main provider for less than twenty-five hours per week, by an amount which is statistically insignificant.

## Discussion

This study has examined explanations for differences between reported difficulties of pre-school children growing up in lone mother and those living in co-parent family settings. It has analysed the roles of formal childcare use and mothers' employment status as potential moderating factors between lone motherhood and child difficulties. As a family situation experienced by an increasing number of individuals, which is often associated with disadvantaged circumstances, lone motherhood features prominently on the policy agendas of many Western countries (Lewis and Hobson, 1997; Lewis, 1999, 2006; Millar and Rowlingson, 2001). Lone mothers have been a target of employment activation (Wright, 2012) and early years' interventions (Lewis, 2011) particularly in the UK since the 1990s (Haux, 2011). The children of lone mothers have been held to suffer negative outcomes from their situations but such outcomes have also been found to be tied to lone parent families' lack of socio-economic resources, adverse neighbourhood conditions and poverty (Singh and Ghandour, 2012; Treanor, 2012), which partly explain observable effects of lone motherhood (Ely *et al.*, 2000; Entwisle and Alexander, 1995; Thomson *et al.*, 1994; McMunn *et al.*, 2001). In line with that latter research tradition, we hypothesised that the differences in reported difficulties of children growing up in lone mother and those in co-parent families are mediated by families' differing material and social circumstances. Indeed, we found that, although younger age and poorer education were factors in explaining lone mothers' greater likelihood of reporting child difficulties compared to co-parent mothers, the effect of lone motherhood was only explained once socio-economic household factors were included too, but specifically factors associated with families' low incomes and living in deprived neighbourhoods. That finding challenges assumptions about particular family types being associated with more or less desirable child outcomes, but points to the importance of addressing social inequalities.

Furthermore, considering Western governments' requirement to save on welfare benefit payments and the promotion of childcare strategies to bring lone mothers into work (Finn and Gloster, 2010) and the effects that may have on child development, we interrogated the role of maternal employment in moderating differences in reported child difficulties between lone and co-parent families. We hypothesised that any moderating effects of employment status on reported child

difficulties of lone mothers would be explained by families' material and social circumstances also. This was confirmed by our analysis. Neither occupational class nor employment status, as supposed prime suspects in explaining negative outcomes for children of lone mother families, added to the explanatory power of our regression models, and they were not required in explaining the difference between reported difficulties of children in lone and co-parent families. We found that low income and area deprivation explained the negative effects of mothers' lack of employment and families' low job status, after allowing for mothers' younger age and poorer education, but in ways that were unaffected by use of formal childcare. Unlike the study of under three-year-olds by Gregg *et al.* (2005), these observations applied equally to lone mothers. In our study, lone mothers' employment does not appear to have benefits for pre-school children's behaviour. The majority of our lone mothers were not employed and studies in the UK show that the majority do not look for work either, with priority given to looking after their young children (Millar and Ridge, 2008; Rafferty and Wiggins, 2011).

Based on previous research on early years' child development, we hypothesised that type and amount of non-parental childcare used would moderate the difference between reported child difficulties in lone and co-parent families. Hansen and Hawkes (2009) had found with a younger cohort that formal childcare did improve school-readiness for children of working mothers, but it had no effect on children's emotional and behavioural difficulties. We find that formal nursery, crèche and centre based provision at ages three and four years improves mothers' reports of their child's behaviour one year later. We did not find any effects of other forms of childcare for three- and four-year-olds, which is consistent with the conclusions of Sylva *et al.* (2004). Extending what we know from earlier research, we also found that greater use of childcare, formal or informal, which we characterised as twenty-five plus hours per week with the main provider, increased the odds of reported child difficulties among mothers in general (Bradshaw and Wasoff, 2009), but not among lone mothers. That means reported behaviour of children of lone mothers using greater amounts of childcare per week was relatively more positive. Indeed, reports of child difficulties were reduced more to levels of mothers with a resident partner who used childcare less often – that is, once allowance was made for the effects of differing ages, education levels, incomes and neighbourhoods. Our findings support initiatives to provide more childcare for lone mothers, but not necessarily always with a focus on formal group-based provision.

In conclusion, the study contributes to a better understanding of what affects child difficulties as reported by mothers. Our findings refute assumptions about lone motherhood itself as the cause of difficulties. They point to the children of all mothers benefitting from the support of formal childcare in nurseries, crèches and family-centres, but not with childminders and or at playgroups, irrespective of mothers' employment status. Lone mothers' children seem to benefit from

accessing greater childcare, formal or informal, in a way that children of mothers who live with a partner do not. The issue seems to be one of balancing the time for caring between parents and another main childcare provider in co-parent family situations, whereas the increased presence of another main provider acts positively as respite care in lone mother families.

Our findings have four main implications for policies targeting lone mother families. Firstly, along with young age and low qualifications, material hardship is a key factor in explaining differences between risks of difficulties for pre-school children in co-parent and lone mother families, which cannot easily be alleviated with mothers' employment activation. Indeed, we find that the connection between lone motherhood and pre-school children's difficulties is independent of the mother's employment. Lone mothers' involvement in paid work does not appear to have benefits for pre-school children's behaviour. However, future research could look at the employment of the mothers of school children as employment activation policies are directed more specifically at them. Secondly, providing access to formal childcare is an important policy measure in limiting the risk of emotional and behavioural difficulties for children of all families and, if anything, more so for children of lone parent families. We cannot say if those benefits for pre-school children are more specific to targeted programmes for families living in disadvantaged areas, as our analysis looked at all types of formal childcare provision taken together. Thirdly, and related to the previous point, we find that the particular challenges lone mothers face may be eased by guaranteeing regular access to another main childcare provider for a greater number of hours per week, regardless of type of provider. The finding supports targeted provision, but not necessarily through formal early years' childcare programmes which have the aim of educating lone mothers as well as their children, but more as respite for lone mothers as carers. Finally, our findings suggest there is no necessary connection between childcare use and mothers' employment for pre-school children's behaviour, one of the assumptions underpinning the logic of policies to roll out childcare provision so that mothers are able to access resources through paid work to the benefit of their children. We find that the benefits and drawbacks of the use of various types of childcare for pre-school children's behaviour, and the extent of their use, are independent of mothers' employment status.

## Acknowledgements

This study resulted from the first doctoral training event held by the Applied Quantitative Methods Network (AQMeN) in Edinburgh, May 2010, and follow-up meetings of the authors, supported by a joint Scottish Funding Council and Economic & Social Research Council award RES-043-25-0011, 2009–2012. The authors wish to thank the sponsors, the parents who participated in the Growing Up in Scotland (GUS) study, Paul Bradshaw and the GUS research team, and the Scottish Government Education Directorate, for providing the data on which

the study is based. We also wish to thank the editors and two anonymous reviewers for their invaluable comments on key revisions.

## Notes

1 In formulating our study hypotheses, we draw a key methodological distinction between mediating and moderating factors (Baron and Kenny, 1986). We argue that availability of resources, material, social and cultural, as mediating factors, are central to the explanation of the connections between lone motherhood and child difficulties; whereas non-parental formal childcare and mothers' employment, as moderating factors, have the potential to alter the connections between lone motherhood and child difficulties through access to resources which change family situations, and so their appeal to policy-makers.

2 Whether or not the child had started school was not related to mothers' reports of child difficulties at that age (Chi-square(2) = 0.095, p = 0.954).

3 The concern about the distribution of residuals in linear regression analysis can be corrected by using a log-transformation of the original difficulties scale as, $Z = \log_{10}(\text{SDQ total difficulties score} + 10)$, but estimated mean differences between groups from the resultant regression models can appear non-intuitive and relative effects seem small. We use the log-transformed scale to cross-check on regression models derived using our three-category ordinal measure.

4 Model specification is block by block in Tables 4(a) to 4(g) using backward elimination of non-significant factors at each block with the critical value of 'p-out' set to 0.10. Statistical checks for 'parallel lines' indicate that ordinal regression is applicable and mulitcollinearity is not an issue, as shown in the notes to Table 4.

5 Lone motherhood is not a static circumstance. However, if our sample is disaggregated into those who entered, those who left and those who remained lone mothers at GUS2 (three and four years) compared to GUS1 (two and three years), then differences in lower, moderate or higher difficulties scores are insignificant at GUS3 (Chi-square(4) = 3.19, p = 0.527). All three groups of 'lone mother' reported raised levels of difficulties at GUS3 compared to mothers in co-parent contexts at both GUS1 and GUS2.

6 The inclusion of the interaction between lone motherhood and amount of childcare with main provider per week (odds = 0.47, p < 0.01) adds 0.5 per cent to R-square in Model (V).

7 The reduction is 15 per cent in terms of relative probabilities.

8 Social-psychological studies have considered how mothers' mental health might colour their reports about their children's behaviour (Brody and Forehand, 1986; Dumas and Serketich, 1994; Mulvaney *et al.*, 2007). However, for the purposes of our study we find that mother's mental health explains neither associations between material and social factors and mothers' reports of child difficulties nor associations between lone parent status and mothers' reports of child difficulties.

9 The probability of reporting higher difficulties scores relative to lower difficulties scores.

## References

Amato, P. R. and Keith, B. (1991), 'Parental divorce and adult well-being: a meta-analysis', *Journal Marriage and Family*, 53: 1, 43–58.

Baron, R. M. and Kenny, D. A. (1986), 'The moderator–mediator variable distinction in social-psychological research: conceptual, strategic, and statistical considerations', *Journal Personality and Social Psychology*, 51: 1173–82.

Bradshaw, P. and Wasoff, F. (2009), *Growing up in Scotland: Multiple Childcare Provision and its Effect on Child Outcomes*, Research Findings No. 4/2009, Edinburgh: Scottish Government.

British Government (2010), *Child Poverty Act 2010*, London.

Brody, G. H. and Forehand, R. (1986), 'Maternal perceptions of child maladjustment as a function of the combined influence of child behavior and maternal depression', *Journal Consulting and Clinical Psychology*, 54: 2, 237–40.

Cerezo, M. A. and Pons, G. (1996), 'Ecosystem adversity as setting factors in mothers' judgment of child behavior and indiscriminate mothering', *European Journal Psychological Assessment*, 12: 2, 103–11.

Chase-Lansdale, P. L., Cherlin, A. J. and Kiernan, K. K. (1995), 'The long-term effects of parental divorce on the mental health of young adults: a developmental perspective', *Child Development*, 66: 1614–34.

Conway, E. (2010), 'Poor cows or dangerous beasts? The representation of "underclass" women in broadsheet newspapers: media portrayals, political identity and policy', Social Policy Association Annual Conference, July 2010, Lincoln, UK.

Crawford, J. R. and Henry, J. D. (2003), 'The depression anxiety stress scales (DASS): normative data and latent structure in a large non-clinical sample', *British Journal Clinical Psychology*, 42: 111–31.

CRFR (2011), *Growing Up in Scotland Study*, Centre for Research on Families and Relationships, Edinburgh University, http://www.crfr.ac.uk/gus/.

Cunningham-Burley, S., Carty, A., Martin, C. and Birch, A. (2005), *Sure Start Scotland Mapping Exercise 2004*, Report on the development and expansion of Sure Start Scotland services since 2001, Edinburgh: Scottish Executive.

Department for Work and Pensions (DWP) (2009), *Family Resources Survey 2007—2008*, London: DWP.

Dronkers, J. (1994), 'The changing effects of lone parent families on the educational attainment of their children in a European welfare state', *Sociology*, 28(1): 171–91.

Dumas, J. E. and Serketich, W. J. (1994), 'Maternal depressive symptomatology and child maladjustment: a comparison of three process models', *Behavior Therapy*, 25: 161–81.

Duncan, S. and Edwards, R. (1999), *Lone Parents, Paid Work and Gendered Moral Rationalities*, Basingstoke: Palgrave Macmillan.

Dunn, J., Deater-Deckard, K., Pickering, K., O'Connor, T. G. and Golding, J. (1998), 'Children's adjustment and prosocial behaviour in step-, single-parent, and non-stepfamily settings: findings from a community study', *Journal Child Psychology and Psychiatry*, 39: 8, 1083–95.

Ely, M., Richards, M., Wadsworth, M. and Elliott, B. (1999), 'Secular changes in the association of parental divorce and children's educational attainment – evidence from three British birth cohorts', *Journal Social Policy*, 28: 3, 437–55.

Ely, M., West, P., Sweeting, H. and Richards, M. (2000), 'Teenage family life, life chances, lifestyles and health: a comparison of two contemporary cohorts', *International Journal Law, Policy and the Family*, 14: 1, 1–30.

Entwisle, D. R. and Alexander, K. L. (1995), 'A parent's economic shadow: family structure versus family resources as influences on early school achievement', *Journal Marriage and Family*, 57: 2, 399–409.

Ermisch, J. and Francesconi, M. (2000), 'The increasing complexity of family relationships: life-time experience of lone motherhood and stepfamilies in Great Britain', *European Journal Population*, 16: 3, 235–49.

Ermisch, J. and Francesconi, M. (2001), 'Family structure and children's achievements', *Journal of Population Economics*, 14: 2, 249–70.

Finn, D. and Gloster, R. (2010), *Lone Parent Obligations: A Review of Recent Evidence on the Work-related Requirements within the Benefit Systems of Different Countries*, Norwich: Department for Work and Pensions.

Giddings, L., Dingeldey, I. and Ulbricht, S. (2004), 'The commodification of lone mothers' labor: a comparison of US and German policies', *Feminist Economics*, 10: 2, 115–42.

Gold, T. (2011), 'The Right has chosen their scapegoat – the single mum. And she will bleed', *Guardian Online*, 19 August, http://www.guardian.co.uk/commentisfree/2011/aug/19/single-mothers-uk-riots-tanya-gold.

Goodman, A., Lamping, D. L. and Ploubidis, G. B. (2010), 'When to use broader internalising and externalising subscales instead of the hypothesised five subscales on the Strengths and Difficulties Questionnaire (SDQ): data from British parents, teachers and children', *Journal Abnormal Child Psychology*, 38: 1179–91.

Goodman, A. and Goodman, R. (2011), 'Population mean scores predict child mental disorder rates: validating SDQ prevalence estimators in Britain', *Journal Child Psychology and Psychiatry*, 52: 100–08.

Gregg, P., Washbrook, E., Propper, C. and Burgess, S. (2005), 'The effects of a mother's return to work decision on child development in the UK', *Economic Journal*, 115: 48–80.

Griest, D. L., Forehand, R., Wells, K. C. and McMahon, R. J. (1980), 'An examination of differences between nonclinic and behavior-problem clinic-referred children and their mothers', *Journal Abnormal Psychology*, 89: 3, 497–500.

Gross, D., Sambrook, A. and Fogg, L. (1999), 'Behavior problems among young children in low-income urban daycare centers', *Research in Nursing and Health*, 22: 15–25.

Handler, J. (2004), *Social Citizenship and Workfare in the United States and Western Europe: The Paradox of Inclusion*, Cambridge: Cambridge University Press.

Hansen, K. and Hawkes, D. (2009), 'Early childcare and child development', *Journal Social Policy*, 38: 2, 211–39.

Harrison, A. (2011), 'Free nursery places for 140,000 disadvantaged toddlers', *BBC News Online*, 11 November, http://www.bbc.co.uk/news/education-15675494.

Haux, T. (2011), 'Lone parents and the Conservatives: anything new?', in M. Kilkey, C. Holden and G. Ramia (eds.), *Social Policy Review*, 23, Social Policy Association, Bristol: Policy Press.

Hutchings, J., Bywater, T., Daley, D., Gardner, F., Whitaker, C., Jones, K., Eames, C. and Edwards, R. T. (2007), 'Parenting intervention in Sure Start services for children at risk of developing conduct disorder: pragmatic randomised control trial', *British Medical Journal*, 334: 678–682.

Joshi, H., Cooksey, E. C., Wiggins, R. D., McCulloch, A., Verropoulou, G. and Clarke, L. (1999), 'Diverse family living situations and child development: a multi-level analysis comparing longitudinal evidence from Britain and the United States', *International Journal of Law, Policy and the Family*, 13: 3, 292–314.

Kiernan, K. E. (1992), 'The impact of family disruption in childhood on transitions made in young adult life', *Population Studies*, 46: 2, 213–34.

Kilkey, M. and Bradshaw, J. (1999), 'Lone mothers, economic well-being, and policies', in D. Sainsbury (ed.), *Gender and Welfare State Regimes*, Oxford and New York: Oxford University Press.

Lewis, J. and Hobson, B. (1997), 'Introduction', in J. Lewis (ed.), *Lone Mothers in European Welfare Regimes: Shifting Policy Logics*, London and Philadelphia, PA: J. Kingsley Publishers.

Lewis, J. (1999), 'The "problem" of lone motherhood in comparative perspective', in J. Clasen (ed.), *Comparative Social Policy: Concepts, Theories, and Methods*, Oxford: Blackwell Publishers.

Lewis, J. (2006), *Children, Changing Families and Welfare States*, Northhampton, MA: Edward Elgar Publishing.

Lewis, J. (2011), 'From Sure Start to children's centres: an analysis of policy change in English early years' programmes', *Journal of Social Policy*, 40: 1, 71–88.

Lovibond, S. H. and Lovibond, P. F. (1995), *Manual for the Depression Anxiety Stress Scales*, Sydney: Psychology Foundation.

McMunn, A. M., Nazrooa, J. Y., Marmota, M. G., Borehamb, R. and Goodman, R. (2001), 'Children's emotional and behavioural well-being and the family environment: findings from the Health Survey for England', *Social Science and Medicine*, 53: 4, 423–40.

Millar, J. and Ridge, T. (2008), 'Relationships of care: working lone mothers, their children and employment sustainability', *Journal of Social Policy*, 38: 1, 103–21.

Millar, J. and Rowlingson, K. (eds.) (2001), *Lone Parents, Employment and Social Policy: Cross-National Comparisons*, Bristol: Policy Press.

Mulvaney, M. K., Mebert, C. J. and Flint, J. (2007), 'Parental affect and childrearing beliefs uniquely predict mothers' and fathers' ratings of children's behavior problems', *Journal Applied Developmental Psychology*, 28: 445–57.
OECD (2011), *OECD Family Database*, Organisation for Economic Cooperation and Development, Paris, http://www.oecd.org/els/social/family/database.
Paton, G. (2007), 'Working together: policy and practice in Scottish early childhood centres', *European Early Childhood Education Research Journal*, 15: 3, 441–54.
Plantenga, J., Remery, C., Siegel, M. and Sementini, L. (2008), 'Childcare services in 25 European Union member states: the Barcelona targets revisited', in A. Leira and C. Saraceno (eds.), *Childhood: Changing Contexts, Comparative Social Research*, 25: 27–53.
Phillips, M. (2011), 'Britain's liberal intelligentsia has smashed virtually every social value', *Daily Mail Online*, 11 August, http://www.dailymail.co.uk/debate/article-2024690/UK-riots-2011-Britains-liberal-intelligentsia-smashed-virtually-social-value.html.
Rafferty, A. and Wiggins, J. (2011), 'Choice and welfare reform: lone parent decision-making around paid work and family life', *Journal of Social Policy*, 40: 2, 275–93.
Richards, L. N. and Schmiege, C. J. (1993), 'Problems and strengths of single-parent families: implications for practice and policy', *Family Relations*, 42: 3, 277–85.
Rose, D., Pevalin, D. J. and O'Reilly, K. (2005), *The National Statistics Socio-economic Classification [NS-SEC]*, Basingstoke: Palgrave Macmillan.
Rowlingson, K. and McKay, S. (2005), 'Lone motherhood and socio-economic disadvantage: insights from quantitative and qualitative evidence', *Sociological Review*, 53: 1, 30–49.
Sammons, P., Elliot, K. and Sylva, K. (2004), 'The impact of pre-school on young children's cognitive attainments at entry to reception', *British Educational Research Journal*, 30: 5, 691–712.
Scottish Care Inspectorate (2011), *Care Service List*, Dundee: Scottish Care Inspectorate.
Scottish Executive (2000), *Summary Results of the 1999–2000 Census of Pre-School Education Centres*, Edinburgh.
Scottish Executive (2003), *Summary Results of the 2003 Pre-School and Day Care Census, Statistics Publication Notice*, Edinburgh.
Scottish Executive (2004), *A Curriculum for Excellence*, Curriculum Review Group, Edinburgh.
Scottish Government (2006), *The Scottish Index of Multiple Deprivation 2006: General Report*, Edinburgh.
Scottish Government (2007), *Growing Up in Scotland Research Findings No.2: Use of Childcare by Parents of Young Children*, Edinburgh.
Scottish Government (2008), *Scottish Government Urban Rural Classification 2007–2008*, Edinburgh.
Scottish Government (2010a), *Pre-school and Childcare Statistics 2010*, Edinburgh.
Scottish Government (2010b), *Child Poverty in Scotland: A Brief Overview of the Evidence*, Edinburgh.
Singh, G. K. and Ghandour, R. M. (2012), 'Impact of neighborhood social conditions and household socioeconomic status on behavioral problems among US children', *Maternal and Child Health Journal*, DOI: 10.1007/s10995–012-1005-z.
Sky News (2011), 'PM: Tackling Gangs New National Priority', *Sky News Online*, 15 August, http://news.sky.com/home/politics/article/16050003.
Sure Start (2005), *National Evaluation Report: Early Impacts of Sure Start Local Programmes on Children and Families Research Report 13*, http://www.ness.bbk.ac.uk/impact/documents/1183.pdf.
Sylva, K., Melhuish, E., Sammons, P., Siraj-Blatchford, I. and Taggart, B. (2004), *The Effective Provision of Pre-School Education (EPPE) Project: Findings from Pre-school to end of Key Stage 1*, London: Institute of Education.
Thomson, E., Hanson, T. L. and McLanahan, S. S. (1994), 'Family structure and child well-being: economic resources vs. parental behaviors', *Social Forces*, 73: 1, 221–42.
Treanor, M. (2012), *Impacts of Poverty on Children and Young People*, Scottish Childcare and Protection Network Research Briefing, Edinburgh.

Vincent, C., Braun, A. and Ball, S. J. (2008), 'Childcare, choice and social class: caring for young children in the UK', *Critical Social Policy*, 28: 5, 5–26.
Wincott, D. (2006), 'Paradoxes of New Labour social policy: toward universal childcare in Europe's "most liberal" welfare regime?', *Social Politics: International Studies in Gender, State and Society*, 13: 2, 286–312.
Winter, K. (2009), 'Recent policy initiatives in early childhood and the challenges for the Social Work profession', *British Journal Social Work*, 39: 1235–55.
Wright, S. (2012),'Welfare-to-work, agency and personal responsibility', *Journal of Social Policy*, 41:2, 309–29.